

**T E C H N I C A L B R I E F****Point-of-Use/Point-of-Entry Devices for Water System Protection****Background**

EPA's National Homeland Security Research Center (NHSRC), Water Infrastructure Protection Division (WIPD), headquartered in Cincinnati, Ohio, is responsible for evaluating ways to protect drinking water supplies. As part of this responsibility, researchers at NHSRC are evaluating Point-of-Use/Point-of-Entry (POU/POE) devices. Both POU and POE devices treat water coming from the distribution system to a home or facility. POU treats water at only the tap to which it is connected, while POE treats all the water coming into the building.

**Point-of-Use/Point-of-Entry Devices for Water System Protection**

To address concerns regarding the vulnerability of water distribution systems, NHSRC researchers are identifying, testing, and evaluating both POU and POE technologies. These devices can be used proactively to protect a water system against contamination, and they can be used as a response measure in the event a water system has become contaminated. POU/POE treatment devices can also be used to identify contaminants that may have affected a water system.

POU/POE treatment devices are designed to address one or more specific contaminants. They offer a supplemental or alternative method to the more traditional measures, such as system flushing and boil water advisories, currently used when responding to water system contamination. Both POE and POU devices can reduce a water user's risk from acute, chronic, and sub-chronic exposures.

Commonly used POU/POE technologies include reverse osmosis filtration, activated carbon adsorption/filtration, and ultraviolet light disinfection. The most effective POE device is one that combines a variety of available technologies. These types of devices are currently in use in highly vulnerable areas or potentially targeted locations. Emerging POU/POE technologies are using ultrafiltration, nanofiltration, and specialty adsorption media.

Testing of the POU/POE devices takes place as part of NHSRC's Technology Testing Evaluation Program (TTEP). TTEP was formerly part of EPA's Environmental Technology Verification Program (ETV). Additional information on TTEP is available at <http://www.epa.gov/ordnhsr/news/news031005.htm> and at <http://www.epa.gov/etv/homeland>.

Products of POU/POE Research

Products of POU/POE research include reports identifying POU/POE devices, their uses, and disposal requirements. Future projects will include additional research into treatment technologies and product development.

(more)

Expected Users

Expected users of POU/POE research results are EPA, the Centers for Disease Control and Prevention (CDC), first responders, state and local agencies, water utility operators, and the general public.

For more information, visit the NHSRC Web site at www.epa.gov/nhsrc.

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